UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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August 4, 2008

Ref: 8EPR-N

Michael D. Lloyd
District Ranger
South Project
330 Mount Rushmore Road
Custer, SD 57730

Re: South Project, Hell Canyon Ranger District, Black Hills National Forest, CEQ # 20080225

Dear Mr. Lloyd:

Pursuant to our authority under Section 309 of the Clean Air Act, the Region 8 Office of the Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the South Project, Hell Canyon Ranger District, Black Hills National Forest and offers the following comments for your consideration.

The Proposed Action includes: thinning of pine sites to reduce fire risk and hazard especially adjacent to private lands, to improve wildlife habitat, and to lower susceptibility to Mountain Pine Beetles (MPB), and pine encroachment treatments to preserve and increase meadows. The Proposed Action is intended to reduce the hazards of large-scale wildfires on the at-risk communities of Custer, Pringle and Argyle, South Dakota. Two action alternatives were evaluated in the DEIS in detail including: Alternative 2, the Proposed Action, which involves commercial and non-commercial vegetation treatments and road management, and Alternative 3, the Preferred Alternative, which would allow larger timber to remain to avoid wind damage, forego treatment near property owned by the State of South Dakota, and apply prescribed fire and increase cutting by 2,354 acres compared to Alternative 2**.**

There are approximately 186 miles of stream channel in the two watersheds (Upper and Lower Pleasant Valley creeks) within the project area. All streams and water bodies within the South project area are currently meeting their beneficial uses as assigned by SD DENR. According to the Forest Service, the Preferred Alternative would improve road drainage and stream crossings to reduce the potential for stream

sedimentation, and would augment stream flows through management of upland vegetation. In April 2000, high tree mortality occurred following a significant ice storm. Much of this woody debris is now on the forest floor, which increases the likelihood of over-heating of the soil during a wildfire.

The Bugtown Project Area lies immediately adjacent to the north/northeast portion of the South project area. The focus of the Bugtown project was reducing the epidemic levels of MPB affecting Ponderosa pine. Elevated numbers of beetles were detected in pine in the northern portions of the South project area during silvicultural surveys.

Environmental Concerns

Soil erosion and water quality. The EPA appreciates the qualitative evaluation of soil erosion, sedimentation, and overall water resource quality in the National Forest. The Draft EIS projects no serious concerns about soil erosion and water quality or potential impacts from the Proposed Action to additional runoff, erosion, and sediment to streams and other water resources such as riparian areas. Given the extensive timber harvesting proposed, however, combined with the extensive acreage affected by the Jasper fire immediately to the northwest of the Project, EPA has some concerns about water quality because of significant land disturbance and potential erosion and runoff from extensive harvesting and other activities, in conjunction with the high road density in the project area. Combined with habitat reductions in ponderosa pine, the high density of roads and their stream crossings contribute to concerns about wildlife habitat and its fragmentation and wildlife disturbance or mortality.

Cumulative impacts resulting from climate change. As you may be aware, recently available research from the Rocky Mountain Research Station has provided information regarding the correlation between epidemic native bark beetle infestations and warming due to climate change. (See: "Western U.S. Bark Beetles and Climate Change", U.S. Department of Agriculture, Forest Service, Climate Change Resource Center, Barbara Bentz, preparer, May 20, 2008, http://www.fs.fed.us/ccrc/topics/bark-beetles.shtml.) This work describes the increasing probability of temperature-dependent beetle survival which suggests that elevated minimum temperatures, which are rising faster than maximum temperatures, have altered the survival conditions for the mountain pine beetle. This trend is predicted to increase in the next thirty years, particularly at high elevations throughout the Rocky Mountains. As a result, the current beetle infestations due to increased warming in the Black Hills may result in significant changes to the long-term ecological conditions which could shift future vegetation patterns in some hard-hit forests. While there are no known management options to prevent the spread of a large-scale bark beetle outbreak, land-use activities that enhance forest heterogeneity, such as creating large patches that contain diverse species and ages of trees, can reduce susceptibility to bark beetle outbreaks, according to this report. As noted in this report, beetle reproduction may have changed from every other year (semivoltine, meaning two years are required for a single generation) to every year (univoltine) due to warming minimum temperatures. (See: "Temperature-based model for predicting univoltine brood

proportions in spruce beetle, *Coleoptera: Scolytidae*", *The Canadian Entomologist*, vol. 133: 827–841, Hansen, et. al., 2001.) EPA recommends that the Final EIS describe this newly available information regarding the nexus between the current beetle infestation and climate change. The Final EIS should also describe what options are available to the Forest Service to adapt their land management to a changed set of ecosystem conditions that is not duplicative of observed past conditions.

Cumulative impacts from proposed actions. Related to our concerns about soils and water quality, we are concerned about the cumulative effects in the Black Hills National Forest for some water resources, fish and wildlife habitats and populations, soils, and other resources. Several recent projects have proposed aggressive harvest and thinning of large-diameter and other trees for fuels reduction and beetle management that are important for wildlife habitats. Larger ponderosa pine and other trees reduce large-scale fire risks, and these old forest structures and habitats are declining in the Black Hills because of recent projects and recent fires. The EPA recommends careful evaluation of cumulative impacts in the Final EIS that considers the overall effects of this and other fire fuels- and MPB risk-reduction projects that are being conducted jointly.

Hydrology. We noted previously some concerns stated in this EIS and similar documents regarding whether logging would positively affect the water flow regime. The hydrologic discussion does not evaluate the effects of the Preferred Alternative on the annual hydrograph. Those effects include potential reductions in base flows, soil moisture, hydrologic support of downstream wetlands and riparian areas, and other effects that relate to greater storm runoff but less soil moisture and stream base flow during drought. Altering the forest hydrographs may have significant adverse impacts in the long run. We suggest that the Final EIS address hydrologic and water quality issues in detail and consider revising some of the conclusions in the Draft EIS.

EPA recommendations for Final EIS

We suggest that the Final EIS include the following information and actions:

1) Quantify soil erosion and stream sedimentation impacts to understand differences among the alternatives and to confirm that adverse impacts will be fully mitigated and that there will be no degradation or impairment of stream systems.

2) To increase protection of environmental resources, we recommend that the Final EIS include an alternative that focuses fire risk-reduction treatments in private land interface areas only.

3) Consider the probability of the cause of the beetle epidemic to be related to climate change and the options for forest management in a warmer and drier ecosystem due to climate change.

4) Consider habitat management practices particularly in important wildlife habitat management areas for species listed as Management Indicator Species or sensitive wildlife species that have documented declines over the National Forest.

5) To reduce cumulative effects, including erosion, sedimentation, and habitat fragmentation, EPA recommends that the project include reducing the number and miles of roads that are unneeded for healthy forest management, as part of the Preferred Alternative.

EPA's Draft EIS Rating

EPA evaluates the potential effects of proposed actions and the adequacy of the information in a DEIS. The DEIS is rated "EC-2" (environmental concerns, insufficient information) under EPA's ratings criteria (enclosed). The "EC" rating means that the Preferred Alternatives does not require substantial changes, but EPA has identified environmental impacts that should be avoided to fully protect the environment. The EC rating is based on EPA's concerns regarding the potential adverse impacts to water quality, soil erosion, and wildlife habitats from the Preferred Alternative. The potential for significant environmental degradation can be reduced by modifying the project to (1) reduce the overall impacts from timber harvesting in important wildlife habitats and (2) encourage natural succession to mature ponderosa pine forest structure in back country and important wildlife habitats. The "2" rating means that the DEIS lacked sufficient information to thoroughly assess an alternative with the potential to achieve objectives to minimize fire and MPB risk while minimizing or fully mitigating the adverse environmental impacts to soil, water, wildlife, and other resources. Impacts to those resources could be quantified and better described in the Final EIS.

If you have any questions or would like to discuss our comments, please contact Wes Wilson of our office at 303/312-6562 or by email at wilson.wes@epa.gov.

Sincerely,

/s/ *Deborah Lebow Aal*
for Larry Svoboda
Director, NEPA Program
Office of Ecosystems Protection and Remediation

Enclosure